NATIONAL WEATHER SERVICE INSTRUCTION 10-405
OCTOBER 4, 2002

Operations and Services
Fire Weather Services, NWSPD 10-4

FIRE WEATHER SERVICES TRAINING AND PROFESSIONAL DEVELOPMENT

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OPR: OS22 (D. Billingsley) **Certified by:** W/OS22 (J. Lee)
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SUMMARY OF REVISIONS: Together with NWSPD 10-4, this directive supercedes WSOM Chapter D-06, "Fire Weather Services Program," Issuance 91-11, dated August 22, 1991; OML 03-95, dated April 27, 1995; OML 04-99, dated September 9, 1999.

Signed 10/04/02

Gregory A. Mandt Date
Director, Office of Climate,
Water, and Weather Services

Fire Weather Services Training and Professional Development

Table of Contents: Page

Note: Weather Forecast Offices (WFOs) that have already coordinated Annual Operating Plans (AOPs) which differ from policies/procedures contained in 10-405 may postpone implementation of these policies/procedures until the end of the local fire season. Differences between 10-405 and current AOP agreements must be summarized to the Regions as soon as possible after this Instruction is signed and placed into the directives system. All WFOs must fully comply with 10-405 no later than 11/30/2002.

1. Fire Weather Forecasters. Any NWS meteorologist producing any of the core suite of fire weather products needs to be trained as a Fire Weather Forecaster. Typically, this includes WFO core forecasters and dedicated fire weather staff. Forecasters must fulfill the following requirements in the these areas to work as a Fire Weather Forecaster:

   a. Fire Weather and Wildland Fire Behavior Baseline Knowledge. Complete the NWS Fire Weather computer based learning module and S-290, Intermediate Wildland Fire Behavior (either by computer based training or residence course).

   b. Local Training. Complete local training as specified by the local and/or regional Fire Weather Program Leader. This training should focus on: (1) the effects of local terrain on fire weather parameters and fire behavior, with an emphasis on wind; (2) local fire weather forecast techniques; (3) local fire season climatology; and (4) Remote Automated Weather Stations (RAWS) observations (where available).

   c. Products and Services. Become familiar with all NWS fire weather products and services and become proficient in the preparation and dissemination procedures for those products. Read NWS Policy Directive 10-4 and associated instructions.

The Meteorologists-in-Charge (MICs) and the appropriate Regional Headquarters will be responsible for ensuring fire weather forecasters are properly trained. Forecasters should review the Annual Operating Plan and produce a significant number of fire weather products each year to remain proficient. Details on proficiency are left to Regional Headquarter's discretion.

2. Fire Weather Program Leaders. MICs of WFOs assigned the responsibility to provide fire weather services will designate a member of the staff as the Fire Weather Program Leader (FWPL). The MIC will ensure the FWPL is provided adequate time for personal training and professional development, staff training and professional development, and user-agency liaison and assistance activities.

The MIC and FWPL will be responsible for training and development of fire weather forecasters and assisting the IMETs (if one is assigned to the WFO) as necessary. (The FWPL does not need to be an IMET or vice-versa.) In addition to fire weather related training, the FWPL's duties may include developing and implementing new forecast products and techniques, and conducting climate and fire weather related studies. The extent of the duties of the FWPL will be determined by the depth of the local fire weather program requirements.

The FWPL will meet the following requirements in addition to those of the Fire Weather Forecaster (section one):

a. Advanced Fire Weather and Wildland Fire Behavior. Complete the S-591 Fire Weather Forecasters Course as soon as possible. To learn more about wildland fire behavior, completion of the S-390 (Introduction to Wildland Fire Behavior Calculations) course is recommended (but not required).

b. National Fire Danger Ratings System (NFDRS). The FWPL will acquire advanced knowledge of the National Fire Danger Rating System (NFDRS). This knowledge should include NFDRS history and purpose, details of its components or indices, how it is used by land managers, and its importance to local land management agencies. Training can be through self-study, interaction with local land managers or NFDRS experts, or by attending a fire agency NFDRS training course.

3. Incident Meteorologists (IMETs) Certification and Training. The Office of Climate Water and Weather Services (through the National Fire Weather Program Manager) and the Regional Headquarters will ensure IMETs are properly trained and certified to work in an Incident Command System using the Advanced Technology Meteorological Unit (ATMU). Regional Fire Weather Program managers must ensure IMET meteorological support equipment familiarization is scheduled annually and designated IMETs in their regions remain certified.

3.1 Initial IMET Certification. To be certified initially as an IMET, the meteorologist will meet the following requirements in addition to all the requirements for FWPLs (section 2):

a. Advanced Fire Weather (IMET) Training. The IMET will acquire a high level of knowledge of fire weather meteorology and fire behavior. This includes: advanced knowledge of complex terrain and its impacts on fire weather parameters; mesoscale meteorology; intermediate to advanced knowledge of climatological patterns associated with fire activity; and intermediate to advanced knowledge of fire behavior, including knowledge of fuels and fire climatology.

b. Wildland Fire Behavior Calculations. The IMET will complete the S-390 Introduction to Wildland Fire Behavior Calculations Course to obtain knowledge of wildland fire behavior calculations. This course introduces fire behavior calculations by manual methods, provides basic skills in determining fire behavior through analysis of input data and interpretation of output data. In addition, the trainee will have a knowledge and familiarization of S-490, Advanced Wildland Fire Behavior Calculations, by reviewing the S-490 Student Reference Text and slides.

c. Incident Command System Orientation. The IMET will complete the I-100 Incident Command System Orientation workbook to acquire basic knowledge of the Incident Command System organization, terminology, and common responsibilities.

d. Incident Training Assignment. The IMET will complete at least two incident (on-site) training assignments with certified IMETs. The first assignment should focus on incident familiarization and learning the appropriate IMET tasks. The second assignment should give the trainee a chance to demonstrate proficiency in these critical tasks under supervision of a certified IMET. Trainees will complete at least 10 days of on-site training combined between the two assignments (not including travel days). Demonstrating proficiency on IMET Task Book tasks may occur during both assignments, depending upon the trainee's progress and the judgement of the IMET trainer. Incident training will include: experience with dispatch and demobilization procedures and the Incident Command System; set up, use, disassembly, and packing of ATMU and MicroREMS; preparation of on-site forecasts; briefing Incident team; and working and coordinating with local forecast offices. Upon successful completion of the training assignments, the certified IMET providing the training will sign-off on the IMET Task Book (Appendix A of 10-402).

The IMET's MIC is the final certifying official. He/she should coordinate with the Regional Fire Weather Program Manager and the Staff Meteorologist to NIFC (SMN), and ensure all required courses, study, and tasks specified in 3.1 are complete before signing the Task Book. The MIC's signature on the Task Book denotes the official certification for the IMET.

3.2 IMET Re-certification. The status of IMETs certification will be reviewed annually by the respective Regional Headquarters and MICs prior to delivering the pre-season list of certified

IMETs to the SMN (required by March 1st of each year). Delivery of IMET names to the SMN implies each IMET has met the ongoing re-certification criteria.

3.3.1 Re-certification Criteria. To remain certified as an IMET, the IMET must complete one of the following within the previous 18 months:

a. Respond to an incident dispatch as a certified IMET using the ATMU equipment

b. Attend the annual National IMET Workshop

c. Complete annual ATMU re-fresher training with another certified IMET, with the training approved by the IMET's MIC

3.3.2 Lapse of Certification. If a previously certified IMET does not meet the criteria in 3.3.1, re-certification can occur by completing either 3.3.1-b or 3.3.1-c, or by a dispatch training session at an incident with a certified IMET. For a dispatch training session, the dispatch must be at least five days in length (not including travel days), and the certified IMET at the incident must notify Regional Headquarters and the MIC if he/she deems re-certification should be approved. The IMET seeking re-certification does not have to formally complete a Task Book, but the required tasks should be reviewed for re-certification purposes. The respective Regional Program Manager or MIC should notify the SMN of any changes in IMET certification.

3.4 Optional IMET Training. Optional but highly recommended training for IMETs includes:

a. Advanced Wildland Fire Behavior Calculations. The IMET should attend the land management agencies residence S-490 Advanced Wildland Fire Behavior Course to further the knowledge of wildland fire behavior calculations obtained from reviewing the Student Reference Text. The residence course provides advanced skills in fire behavior analysis and prediction through the use of more complicated scenarios involving weather, terrain, and fuels.

b. Advanced Fire Behavior Interpretation. The IMET should attend the S-590 Advanced Fire Behavior Interpretation to obtain knowledge of the role of the Fire Behavior Analyst on an incident and to better understand the interaction of the IMET with the Fire Behavior Analyst.

c. Basic Incident Command System Course. The IMET should take the I-200 Basic Incident Command Course to acquire an understanding of the principles of the Incident Command System, including organizational structure, facilities, resource terminology, and the common responsibilities associated with incident assignments.

4. Course Information. Contact the appropriate Regional Fire Weather Program Manager for information on obtaining course materials, dates of residence classes, etc..